

### **REMARKS/ARGUMENTS**

The Office action mailed on October 23, 2006 has been carefully reviewed and the above identified amendments have been provided to thoroughly address each of the rejections provided by the examiner in that Office action. In addition, the following remarks are submitted to clarify and explain the importance of the above amendments and to support a finding by the examiner that the claims, as amended, are now in a form warranting allowance of this case. Accordingly, the undersigned respectfully requests reconsideration by the examiner in this case.

Applicant hereby confirms the election made of invention I and species C (Figures 17-19). Claims reading on this species include claims 1-3, 7, 10-12, 14, 15 and 17. Applicant has canceled withdrawn claims 23-45. Withdrawn claims 4-6, 8, 9, 13, 16 and 18-22 have not been canceled but remain withdrawn. These claims depend from elected claim 1. Applicant submits that if claim 1 is amended to a form where it warrants allowable status, that these non-canceled withdrawn claims will be suitable for having their withdrawn status removed and their patentability considered in accordance with 37 C.F.R. §1.141.

The examiner had rejected claims 14, 15 and 17 under 35 U.S.C. §112, second paragraph as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The examiner specified in particular what deficiencies were determined to exhibit indefiniteness. Applicant has amended these claims to address the examiner's concerns. Applicant respectfully submits that with these amendments to claims 14, 15 and 17, the subject matter of these claims is now definitely set forth, in a form satisfying the requirements of §112, second paragraph.

The examiner had rejected each of the non-withdrawn claims under 35 U.S.C. §102 as being anticipated by Steffen, Lin and/or Fehling. The examiner explained in detail the teachings of these references which were considered to anticipate the

limitations of these claims. Some of these prior art references were only cited against a subset of these claims, but each of these references was cited as anticipating the requirements of independent claim 1 from which all of the other non-withdrawn claims depend.

Applicant has carefully studied the examiner's basis for rejecting these claims and the teachings of these cited prior art references. While applicant does not fully agree that each of these claims is anticipated by the prior art, applicant has chosen to amend claim 1 to provide further contrast between the requirements of claim 1 and the teachings of the prior art. With these amendments, applicant submits that patentable subject matter is now clearly defined, such that these claims now warrant allowable status.

In particular, claim 1 has been amended to specify in greater detail the unique orientation of the helical spring of this invention and the unique way that this helical spring is adapted to flex when encountering compression loads within the intervertebral space between the adjacent vertebrae. Also, claim 1 has been amended to clearly specify that the center line of the helical spring has a non-circular center line. These amendments made to claim 1 define features of this invention which are not taught by any of the prior art cited in this case, such that anticipation no longer exists. Applicant reminds the examiner that “. . . anticipation requires that each and every element of the claimed invention be disclosed in a single prior art reference.” Akzo N.V. v. United States ITC, 808 F.2d 1471, 1 U.S.P.Q.2d 1241 (Fed. Cir. 1986). Further, “those elements must either be inherent or disclosed expressly. . .” Verdegaal Bros., Inc. v. Union Oil Co., 814 F.2d 628, 2 U.S.P.Q.2d 1051 (Fed. Cir. 1987). “. . . and must be arranged as in the claim[s]. . .” Carella v. Starlight Archery & Pro Line Co., 804 F.2d 135, 231 U.S.P.Q. 644 (Fed. Cir. 1986). “. . . [The] absence from the reference of any claimed element negates anticipation.” Kloster Speedsteel AB v. Crucible Inc., 793 F.2d 1565, 230 U.S.P.Q. 81 (Fed. Cir. 1986).

Specifically, Steffen does teach a shape memory spiral structure which is in many ways akin to a spring and is provided for insertion within an intervertebral space. However, Steffen orients a center line thereof extending perpendicular to a plane located between the two vertebrae, rather than within this plane between the adjacent vertebrae. This is not a trivial limitation. Rather, helical compression springs are almost always oriented as taught by Steffen with compression loads encountered axially along a center line of the spring. Claim 1 requires that the helical spring be loaded with compression loads and flex not axially along the center line, but rather transverse to the center line. As such, claim 1 as amended is clearly not anticipated by the teachings of Steffen.

Lin teaches an implant with an inner spring, shown in Figures 1B and 1C of Lin. These figures show a "ring-shaped spring." This ring-shaped spring is circular in form. In contrast, claim 1 has been amended to specify that a center line of the helical spring be "non-circular." The invention of this application, and as shown in Figures 17-19, has the center line extending linearly. In some embodiments, such as that shown in the non-elected species of Figure 20, the centerline does have a very gradual arc. In both cases, nothing in any way approaching a circular form is shown in these embodiments, which were elected in response to the restriction requirement discussed above. Because claim 1 requires a centerline which is non-circular and Lin clearly teaches a "ring-shaped" spring that is circular in form, applicant respectfully submits that claim 1 is not anticipated by Lin.

With respect to Fehling, applicant again notes that Fehling teaches a compression spring 16 which has a center line which is oriented perpendicular to a plane located between the vertebrae rather than within this plane. For the reasons specified above with respect to the Steffen reference, Fehling also fails to anticipate the requirements of claim 1 as amended. Accordingly, claim 1 as amended, is now distinct from the teachings of the cited prior art, such that claim 1 is no longer anticipated by the prior art, but rather

is in a form warranting allowable status.

Claims 2, 3, 7, 10-12, 14, 15 and 17 each depend from claim 1, either directly or through intervening claims. Accordingly, these dependent claims benefit from the amendments made to claim 1 described above, such that these dependent claims should now also be in a form warranting allowable status. In addition, certain of these claims had previously included limitations which are believed to have already been distinct from the teachings of Steffen, Lin and Fehling; but which perhaps had not been fully understood by the examiner. Applicant has endeavored to modify certain of these dependent claims to provide greater clarity with regard to features thereof which are clearly not taught by Steffen, Fehling, Lin or the other prior art of record in this case. In particular, claim 12 has been amended to specify more clearly which direction is referred to as the "shorter direction" and which direction is referred to as the "wider direction" in identifying a helical spring which is not as tall as it is wide, but rather is shorter than it is wide.

Hence, claim 12 has been further amended to provide a high degree of clarity as to what is considered to be the shorter direction, namely the direction that is oriented vertically when implanted and that is perpendicular to the center line, and what is considered to be the width of the helical spring, namely the direction which is perpendicular to the center line and extends horizontally when implanted. Perhaps this feature of the helical spring can be best seen in figure 17 of this application. Applicant respectfully submits that this asymmetrical configuration for the helical spring as required by claim 12 is distinct from all the cited prior art, such that claim 12 is in a form warranting allowable status. Claim 17 has been amended in a manner similar to claim 12 and for the reasons specified above should also warrant allowable status.

Applicant has additionally provided new claims for the examiner's kind consideration, including claims 46-53. These new claims read on the same species as the elected claims (figures 17-19), with the possible exception of new claim 52 which

corresponds with the species of figure 20 that is closely related and a species of generic claim 1.

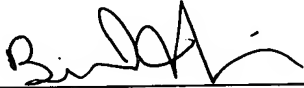
New claim 46 is an independent method claim which includes limitations tracking very closely to the limitations of claim 1. Applicant respectfully submits that this method claim 46 is not directed to the same invention as non-elected method claims 38-45, but rather is more closely related to elected claims 1-3, 7, 10-12, 14, 15 and 17. New claim 46 includes many of the structural limitations of claim 1 within the first providing step of method claim 46. Other portions of claim 1 which had been provided in somewhat functional language explaining how the implant of claim 1 was "adapted to" exhibit various features, has been rewritten in new claim 46 to refer to analogous steps in the use of the helical spring. Accordingly, applicant respectfully submits that claim 46 is properly examinable along with claim 1 and for the reasons specified above with respect to claim 1 is distinguishable from the prior art and warrants allowable status. New claims 47-49 depend from new claim 46. These dependent claims include further details such as the asymmetrical contour of the helical spring and the way that the helical spring tapers near ends thereof.

New claim 50 is an apparatus claim similar to claim 1, but without including one of the limitations of amended claim 1 relating to the height of turns of the helical spring. This limitation had not been considered by the examiner to distinguish the invention from the prior art, such that its absence in claim 50 should not cause it to be treated significantly differently from amended claim 1. Thus, for the reasons specified above with respect to amended claim 1, claim 50 should also be in a form warranting allowable status. New claims 51-53 depend from new claim 50 and include further limitations which are considered to be distinct from the prior art of record in this case. Accordingly, new claims 46-53 are respectfully submitted to be in a form warranting allowable status.

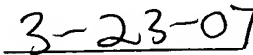
In view of the foregoing, it is respectfully requested that the examiner pass this case to issue. If, upon consideration, the examiner believes further issues remain

outstanding or new ones have been generated, the undersigned requests that the examiner call the undersigned to set up a personal or telephone interview with the undersigned to resolve any such remaining issues.

Respectfully Submitted:



Bradley P. Heisler  
Applicant's Attorney  
Telephone (916) 781-6634  
Registration No.: 35,892



Date